

NEW ENGLAND NOTE

A NEW NATIVE PLANT FOR MASSACHUSETTS,
CAREX BACKII (CYPERACEAE)

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Carex backii Boott is one of two members of the section *Phyllostachyae* of the genus *Carex* found in New England. It is distinguished from the other species, *C. willdenowii* Schkuhr ex Willd., by having a lower pistillate scale that is wider than the perigynia and concealing them (Catling et al. 1993). It occurs from the Gaspé Peninsula, Québec south through New England, and west to British Columbia, Wyoming, and Colorado (Saarela and Ford 2001). It formerly occurred but has not been found recently in New Jersey and Pennsylvania (Kartesz and Meacham 1999), and appears to have a patchy distribution in its current range. It is uncommon in New England, previously having been reported from Maine, New Hampshire, Vermont, and Connecticut. It is most common in Vermont, with a ranking of S3, corresponding to 21–100 occurrences. Its rank is undetermined in New Hampshire (where it is being reviewed for state listing), and S1 and Endangered in both Connecticut and Maine, with one and several occurrences, respectively (Connecticut Department of Environmental Protection 1998; Maine Department of Conservation 1999; A. Haines, New England Wildflower Society, pers. comm.). The species is a new addition to the native flora of Massachusetts, where it is listed as Endangered. This note reports on the two known Massachusetts occurrences.

One population was discovered in 1997 in open woods on an east-facing slope of Wachusett Mountain in Worcester County

(*Bertin 1587*, 24 Jun 1997, MASS). The population consisted of about 42 clumps, each containing multiple shoots of this “tufted” (Gleason and Cronquist 1991) species. The shallow rocky soil overlies bedrock mapped as biotite granodiorite to tonalite gneiss (Zen 1983). The tree canopy consisted of *Fraxinus americana* L. and *Quercus rubra* L., with a few *Carya ovata* (Mill.) K. Koch. The shrub layer included *Acer pensylvanicum* L., *Crataegus* sp., *Q. rubra*, *Prunus serotina* Ehrh., *P. virginiana* L., and *Betula lenta* L. The herb layer was relatively dense, and was dominated by *Polygonum cilinode* Michx. Other herbaceous species included *Carex communis* Bailey, *C. pensylvanica* Lam., *Deschampsia flexuosa* (L.) Trin., *Parthenocissus quinquefolia* (L.) Planch., *Festuca subverticillata* (Pers.) E. B. Alexeev, *Elymus hystrix* L., *Circaea lutetiana* L., *Maianthemum racemosum* (L.) Link, *Poa* sp., and *Viola* sp.

The second population was discovered during 2001 in the Holyoke Range in Hampshire County (*Searcy 403*, 19 Jun 2001, MASS). Approximately 18 widely separated clumps, each supporting 4–38 culms, were found near the summit of Long Mountain in shallow soil on a steep north-northeast-facing slope of the basalt ridge that makes up the crest of the range. Based on tests conducted by the Soil Testing Lab at the University of Massachusetts, the pH of the A horizon in these soils was 4.7–5.0. Calcium concentrations were high (ca. 2200 ppm), at least an order of magnitude higher than in soils overlying nearby sedimentary rock. As with the first population, the forest canopy was relatively open. Woody species included *Betula lenta*, *B. papyrifera* Marshall, *Acer rubrum* L., *Ostrya virginiana* (Mill.) K. Koch, *Carya glabra* (Mill.) Sweet, *Tsuga canadensis* (L.) Carrière, *Hamamelis virginiana* L., and *Viburnum acerifolium* L. Conspicuous herbs included *Dryopteris marginalis* (L.) A. Gray, *Parthenocissus quinquefolia*, *Carex pensylvanica*, and one or more *Carex* in the section *Laxiflorae*.

Carex backii is sometimes considered a calciphile (Scoggan 1950; M. Lapin, consulting ecologist, pers. comm.). The one Connecticut site is a marble ridge in Canaan, Litchfield County (Mehrhoff 1995; T. Rawinski, Massachusetts Audubon Society, pers. comm.). Many of the Vermont records are from soils derived from limestone, dolomite, or other calcareous rocks (M. Lapin, pers. comm.; T. Rawinski, pers. comm.). Maine occurrences seem to span a wider range of soil types. Dibble (1993) reported the

species from a rocky bluff with oak-hornbeam forest along with *Hepatica nobilis* Mill. A second Maine location also supports associates that suggest non-acid conditions [e.g., *Carex platyphylla* Carey, *Woodsia obtusa* (Spreng.) Torr., *Aquilegia canadensis* L., *Ranunculus fascicularis* Muhl. ex Bigelow, *Arabis missouriensis* Greene; Rawinski, pers. comm.]. However, other Maine sites are in red oak-northern hardwoods forests on apparently acid soils (Haines, pers. comm.). Neither Massachusetts site is basic, though they may be less acid than most Massachusetts soils. We have no information on the Princeton soil type, though areas within several hundred meters downslope support *Adiantum pedatum* L., *Sanguinaria canadensis* L., *Actaea rubra* (Aiton) Willd., *Geranium robertianum* L., and *Caulophyllum thalictroides* (L.) Michx. The New Hampshire site supports a soil with pH of 6–7 on calcite-rich diorite/granodiorite. Associated species include *Cypripedium calceolus* L., *Carex platyphylla*, *Cynoglossum virginianum* L., and *Dryopteris goldiana* (Hook. ex Goldie) A. Gray (E. B. Engstrom, consulting ecologist, pers. comm.).

Carex backii is a relatively inconspicuous plant and rarely seems to occur in extensive populations. This is reflected in the fact that although both Massachusetts and Connecticut are well botanized, the first records from these states are from the last 15 years. Several of the Maine and Vermont records were also added during this period. It seems likely that additional populations of the species occur in New England, and further botanizing on neutral and alkaline soils during the late June to early July fruiting period will reveal some of these.

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